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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,990	12/21/2001	John Seibel	41286	8142

7590 11/01/2007  
Roylance, Abrams, Berdo & Goodman, L.L.P.  
Suite 600  
1300 19th Street, N.W.  
Washington, DC 20036

EXAMINER
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LU, KUEN S

ART UNIT	PAPER NUMBER
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2167

MAIL DATE	DELIVERY MODE
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11/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/023,990

Applicant(s)

SEIBEL ET AL.

Examiner

Kuen S. Lu

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on AP.PRE.REQ-8/9/07 and AP.PRE.DEC-8/31/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 18-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Reopened Prosecution*

1. This action is responsive to Applicant's Pre-Appeal Conference Request filed August 9, 2007 and its decision made August 31, 2007. In view of the decision, finality of Final Rejection of April 9, 2007 is hereby withdrawn and prosecution is hereby reopened. A new ground of rejection is set forth below.

2. As to Applicants' Arguments in Pre-Appeal Conference Request filed August 9, 2007 concerning claims 18-19 rejections under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter is persuasive and Examiner hereby withdraw the rejections. With respect to Applicants' other arguments concerning claims 35-43 and 18-43 rejections under 35 U.S.C. § 101 and 35 U.S.C. § 103, respectively, please see Examiner's response in "**Response to Arguments**" and Office Action for non-Final Rejection (hereafter "the Action"), shown next.

3. Please note claims 18-43 in the application have been examined and are pending.

### *Priority*

4. The Applicants' claim of domestic priority under 35 U.S. C. § 119(e) to provisional applications 60/257,150, filed December 22, 2000; 60/258,499, filed December 29, 2000; and 60333733 filed December 29, 2001 is acknowledged.

5. Since the provisional applications relied upon as priority documents contain a less

detailed disclosure of the invention, the claim of priority will be considered on a claim-by-claim basis. The priority of the Application is at the least December 21, 2001, the filing date, but depending upon the specific material claimed, could be as early as December 22, 2000.

### ***Response to Arguments***

**6.1.** Concerning Applicant's Arguments in Pre-Appeal Conference Request filed August 9, 2007 concerning claims 35-43 rejections under 35 U.S.C. § 101, please see grounds for rejections of the claims under 35 U.S.C. § 112 and 35 U.S.C. § 101 because "computer readable medium" is not supported by specification of instant or provisional applications.

**6.2.** Concerning Applicant's Arguments in Pre-Appeal Conference Request filed August 9, 2007 concerning claims 18-43 rejections under 35 U.S.C. § 103, Examiner respectfully submits that a new grounds of rejection is made on a newly introduced reference by Challenger and a combined teaching of Challenger and McClure references.

### ***Claim Objections***

**7.** Claims 25-34 and 36-43 are objected to because of the following informalities:

As per claims 25-34 and 36-43, the claims cited "A system **as in claim**" and "A computer readable medium of instructions **as in claim**", respectively, the claims render ambiguous because the claims describe "A system" or "A computer readable medium", respectively, "as in" a specified claim in which "as in" suggests "something like" and are not the same as "**The system of**" or "**The computer readable medium of**" a specific

claim for the claims upon which the claims individually depend. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

**8.1.** The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**8.2.** Claims 35-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per claims 35-43, the claims cited "A computer readable medium of instructions" which is not described in specification of instant application or its prior and related provisional applications.

***Claim Rejections - 35 USC § 101***

**9.** 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**9.1.** As set forth in MPEP 2106 (II) (A):

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the

claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

### 9.2. As set forth in MPEP 2106 (IV) (B) (1):

Claims to computer-related inventions that are clearly nonstatutory fall into the same general categories as nonstatutory claims in other arts, namely natural phenomena such as magnetism, and abstract ideas or laws of nature which constitute "descriptive material." Abstract ideas, *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759, or the mere manipulation of abstract ideas, *Schrader*, 22 F.3d at 292-93, 30 USPQ2d at 1457-58, are not patentable. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

### 9.3. As set forth in MPEP 2111.04:

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:

- (A) "adapted to" or "adapted for" clauses;
- (B) "wherein" clauses; and
- (C) "whereby" clauses.

The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "whereby" clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited." *Id.* < Examiner respectfully suggests applicants replacing the "adapted to" and "such that" clause by a positive statement that discloses the claimed invention.

**9.4.** Claims 35-43 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 35, the claims are directed to a computer-readable medium of instructions for control a system to perform some operations. However, the claimed "computer readable medium" is not described in the specification and a computer readable medium may comprise wireless telecommunication signals and carrier waves, forms of energy. As forms of energy, the signals and waves are not a matter, composition of matter or product; and do not fall within any one of categories of patentable subject matter. Therefore, the claims are non-statutory.

As per claims 36-43, the claims inherit the deficiency of being non-statutory directly or indirectly from claim 35, and do not rectify the deficiency individually or by inheritance. Again, the consequence is non-statutory.

***Claim Rejections - 35 USC § 103***

**10.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**10.1.** Claims 18-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClure et al. (U.S. Patent 6,250,548, hereafter "McClure") and further in view of Challener et al. (U.S. Patent 6,081,793, hereafter "Challener").

As per Claims 18, 24 and 35, McClure teaches "marking each of a plurality of" "paper ballots with a unique ballot identification" (See col. 30, lines 58-59 where a unique absentee ballot issue number is the 3<sup>rd</sup> data element in the ballot);

McClure does not explicitly teach that the paper ballot is marked after the ballot is voted, although the ballot identification marked in the ballot remains on the voted ballot.

However, Challener teaches marking completed vote with counter key; voter key, voter ID and authenticator's key at and by a series of levels of encryptions (See Fig. 9D and col. 10, lines 34-65).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention was made to combine Challener's teaching with McClure references by encrypting combined voter and ballot data because both references are electronic voting where McClure emphasizes selecting ballot to voter properly, securing voting data and eliminating errors at different voting steps, while Challener focuses on providing a secure system to generate election result, encrypting and identifying voter, ballot and voted ballot data, and the combined teaching would have improved security and accuracy of McClure's system by facilitating the process of removing and



rectifying fraudulent and challenged voted ballot. (See BACKGROUND OF INVENTION and SUMMARY OF THE INVENTION of Challener and McClure references).

The combined teaching of the Challener and McClure references further teaches the following:

**"scanning said plurality of voted ballots and generating computer readable visual representations of each of said ballots"** (See McClure: col. 32, lines 29-41 where a scanning software scans and analyzes voted absentee ballot, and generates an image based on analyzed ballot, and readability of the image is established on the fact that the scanning constructed image is storable in computer memory, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update);

**"analyzing markings in said visual representations indicating a voter's intent made on said plurality of voted ballots"** (See Challener: col. 8, lines 36-52 and col. 10, line 57 – col. 11, line 11 where voted ballot is examined for possible tampering, erroneous voted ballot is corrected, voted ballot is saved and voter is interacted and engaged to delete and change voted ballot not of his or her choice with a new vote, the descriptions combined suggests teaching of analyzing voted ballot visually to see if the ballot is of a voter's intent; and furthermore, McClure: col. 32, lines 42-59 where cast ballot is scanned into image and voter's handwriting is converted and interpreted, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update);

**“generating vote data associated with each of said plurality of voted ballots based on said visual representations of said ballots”** (See Challener: col. 10, line 57 – col. 11, line 11 where voter is interacted and engaged to delete and change voted ballot not of his or her choice with a new vote of his or her choice; and McClure: col. 32, lines 49-57 where the voter’s interpreted write-in is stored as part of the voted ballot image, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update); and

**“associating each said visual representation and corresponding vote data with said voted ballot based on said unique ballot identification”** (See Challener: Fig. 9D and col. 10, lines 6-33 where a completed vote is concatenated with voter ID and encryption keys of counter, voter and authenticator).

As per Claims 19, 26 and 37, the combined teaching of the Challener and McClure references further teaches **“vote data comprises said unique ballot identification”** (See McClure: col. 43, lines 24-31 by showing cast ballot and voter identification are linked together before ballot is selected and cast selection).

As per Claims 20, 27 and 38, the combined teaching of the Challener and McClure references further teaches **“storing said computer readable visual representation and said vote data in a database”** (See McClure: col. 9, lines 42-44 where database maintains voted image and at col. 43, lines 32-35 and col. 44, lines 1-5 where the

readable cast ballot is moved into the primary storage location at the voting site and later transmitted to a central computer to store selection).

As per Claims 21, 30 and 41, the combined teaching of the Challenger and McClure references further teaches **"storing said computer readable visual representation and said vote data in a relational database"** (See McClure: col. 9, lines 5-6 and 42-44 where database maintains voted image and commercial database for storing cast ballot includes relation databases).

As per Claim 25 and 36, the combined teaching of the Challenger and McClure references further teaches **"a display device adapted to display at least one said visual representation and said vote data associated therewith"** (See McClure: Fig. 26 and col. 37, lines 17-22 and col. 30, lines 46-59 where ballot style with identification information, the issue number, is displayed).

As per Claim 22, 31, 32, 33 and 42, the combined teaching of the Challenger and McClure references further teaches the following:  
**"retrieving at least one of said computer readable visual representations"** (See McClure: Fig. 26 and col. 37, lines 17-22 and col. 30, lines 46-59 where in the internet voting, the ballot style with identification information, the issue number, is retrieved and displayed);

**“displaying said computer readable visual representation and said vote data associated therewith on a display device”** (See McClure: Fig. 26 and col. 37, lines 17-22 and col. 30, lines 46-59 where in the internet voting, the ballot style with identification information, the issue number, is retrieved and displayed); and **“modifying said vote data associated therewith”** (See McClure: Fig. 26 and col. 37, lines 22-38 and col. 30, lines 46-59 where in the internet voting, the voter writes in and/or change selection, and cast the ballot).

As per Claim 23, the combined teaching of the Challenger and McClure references further teaches the following:

**“retrieving at least one of said computer readable visual representations”** (See McClure: col. 42, lines 65-67 where voting tablet displays governor selection is the starting of the ballot selection/cast);

**“displaying said computer readable visual representation and said vote data associated therewith on a display device”** (See McClure: col. 42, lines 60-67 by showing the voting steps in the voting booth and voting tablet illuminating and displaying message for starting the voting/casting process);

**“retrieving the voted ballot associated with said computer readable visual representation based on said unique ballot identification”** (See Challenger: col. 8, lines 36-52 and col. 10, line 57 – col. 11, line 11 where voted ballot is examined for possible tampering, erroneous voted ballot is corrected, voted ballot is saved and retrieved on which voter is interacted and engaged to delete and change voted ballot

not of his or her choice with a new vote and, McClure: col. 43, lines 24-31 by showing cast ballot and voter identification are linked together before ballot is selected and cast, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update); and **"modifying said vote data associated with said voted ballot and said computer readable visual representation"** (See McClure: col. 43, lines 25-30 where voter can move his/her selections before finally casting by pressing the ballot cast button, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update).

As per Claims 26 and 37, the combined teaching of the Challenger and McClure references further teaches **"mark said voted ballot with a unique ballot identification"** (See Challenger: Fig. 9D and col. 10, lines 34-65 where completed vote is marked with counter key, voter key, voter ID and authenticator's key at and by a series of levels of encryptions and, McClure: col. 43, lines 24-31 by showing cast ballot and voter identification are linked together before ballot is selected and cast, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update).

As per Claims 27 and 38, the combined teaching of the Challenger and McClure references further teaches “**associate said unique ballot identification with said vote data and said visual representation of said voted ballot**” (See Challenger: col. 8, lines 36-52 and col. 10, line 57 – col. 11, line 11 where voted ballot is examined for possible tampering, erroneous voted ballot is corrected, voted ballot is saved and voter is interacted and engaged to delete and change voted ballot not of his or her choice with a new vote and, McClure: col. 42, line 65 – col. 43, line 16 where voting styles according to each voter is displayed for his/her selection, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update).

As per Claims 28 and 39, the combined teaching of the Challenger and McClure references further teaches “**a storage device for storing said vote data and said visual representation of said ballot**” (See McClure: col. 43, lines 32-35 and col. 44, lines 1-5 where the readable cast ballot is moved into the primary storage location at the voting site and later transmitted to a central computer to store, and at col. 9, lines 5-6 where commercial database for storing cast ballot includes relation databases).

As per Claims 29 and 40, the combined teaching of the Challenger and McClure references further teaches “**said storage device comprises a database**” (See McClure: col. 43, lines 32-35 and col. 44, lines 1-5 where the readable cast ballot is moved into the primary storage location at the voting site and later transmitted to a

central computer to store, and at col. 9, lines 5-6 where commercial database for storing cast ballot includes relation databases).

As per Claims 34 and 43 the combined teaching of the Challenger and McClure references further teaches "**modify said vote data based on a review of the voted ballot associated with said unique ballot identification in said vote data**" (See Challenger: col. 8, lines 36-52 and col. 10, line 57 – col. 11, line 11 where voted ballot is examined for possible tampering, erroneous voted ballot is corrected, voted ballot is saved and voter is interacted and engaged to delete and change voted ballot not of his or her choice with a new vote and, McClure: col. 43, lines 25-30 where voter can move his/her selections before finally casting by pressing the ballot cast button, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update).

### ***References***

#### **6.1. The prior art made of record**

B. U.S. Patent 6,250,548

F. U.S. Patent 6,081,793

#### **6.2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.**

A. U.S. Publication 2004/0046021

C. U.S. Patent 4,776,510

D. U.S. Patent 5,218,528

E. U.S. Patent 5,878,399

***Contact information***

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kuen S. Lu whose telephone number is (571)-272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone pre unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571)-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-27-9197 (toll free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, please call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kuen S. Lu,



Patent Examiner, Art Unit 2167



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